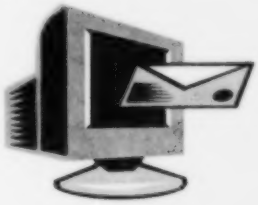
Insectary Notes

JULY/AUGUST 2007

INSECTARY
N.S. Dept. of Natural Resources
P.O. Box 130 Shubenacadie
Hants Co., Nova Scotia
B0N 2H0

A sign of the E-Times!



The feedback we get from Insectary Notes is very encouraging. Many readers enjoy the information, appreciate the informal presentation, and have a few chuckles along the way.

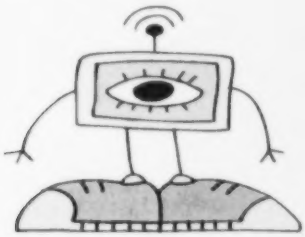
Jacqui Gordon, as the managing editor, and her many contributors from inside and outside the Integrated Pest Management Section have been providing material for more than 14 years. And there seems to be no sign of slowing down.

However, in this electronic age, the cost and efficiency of printing and mailing hard copies of the newsletter has been a regular discussion item over the last couple of years.

Starting in April 2008, Insectary Notes will only be available electronically. In this way, we will rely on the readers to print a copy if they wish, or just read the full colour version when it is announced as available 6 times a year.

We will redirect the printing and mailing costs into electronic publication software and upgrading our web site, including access to older versions of articles and information. We ask for your patience as we make these changes and hope you continue to enjoy the newsletter and the web site.

Walter Fanning
Manager, Forest Protection



Say What and Quotes . . .

People who can agree on what's funny can usually agree on other things. -Anonymous

The older we get, the fewer things seem worth waiting in line for. -Unk.

'Deja Moo': The feeling that you've heard this bull before. -Unk.

The first rule of holes: If you are in one, stop digging. -Unk.

The only time the world beats a path to your door is if you're in the bathroom. -Unk.

An unbreakable toy is useful for breaking other toys. -Unk.

I feel like I'm diagonally parked in a parallel universe. -Unk

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If you think you're having a bad day . . . this came from the internet and was reported to come from a newspaper in the UK. (Found in the Guardian in Jon Henley's 'Diary' column).

Alistair Fellows from Burton-on-Trent was struck by lightning last week and lived to tell the tale.

Amazingly, Mr. Fellows had previously narrowly escaped electrocution after cutting through a power cable.

Other mishaps include the following: he has fractured his skull twice, been hit by a runaway lorry, and had a toothbrush surgically removed from his ear.

Telephone: 902 758 7014 or 7015 or 7070 *Fax: 902 758 3210*

Insect Focus

Spruce Beetle
(*Dendroctonus rufipennis* Kirby)

Introduction

The spruce beetle is native to Nova Scotia and attacks mature and overmature spruce. Once established in a forest stand it can become very destructive.

Hosts

Farm abandonment in the early to mid-1900's has resulted in many even-aged stands of white spruce throughout the province.

White spruce is a relatively short lived tree, maturing at about 50 years of age. When mature, it starts to become vulnerable to attack by insects and disease. Rot also begins to set in and the trees are more susceptible to blowing down. These two factors (tree stress and blowdowns) are critical for spruce beetle populations to build and spread.

Its preferred host in Nova Scotia is white spruce, but all spruce species can be attacked and killed.

Life cycle and Damage

The adult and larva stages of the spruce beetle cause the damage. Spruce beetles begin to attack trees in late May and continue through June. Adults bore through the bark down to the outer surface of the sapwood where they mate and lay their eggs. After hatching, the larvae feed together for a short time then form individual feeding tunnels or "galleries" that eventually girdle the tree. Adult beetles leave the tree in the fall of the year to seek overwintering sites in the bases of standing trees and blowdowns.

When beetle populations are low, the trees are able to resist attack. When the beetle population reaches epidemic levels, they "mass attack" spruce trees in an area. Eventually they will overcome any resistance the tree produces, girdle the stem with galleries and kill it.

Detection

Look for:

- Holes in the bark on the main stem of spruce trees. These holes are about 1mm in diameter and may have sap dripping from them.
- Blobs of dried sap or pitch (commonly called pitch tubes) partially covering the holes. If the tree is weak from numerous attacks, little or no sap may be visible and the entrance holes will be easy to see.
- Reddish-brown boring dust (like sawdust) visible on the bark and at the base of the trees.
- Foliage on spruce trees turn yellow then reddish-brown by late summer. This usually occurs 1 or 2 years after the tree is first successfully attacked.
- Outer bark of trees flaked off or missing from the standing tree. This is caused by woodpecker feeding activity as they search for adults and larvae.

Control

Carry out regular inspections of your woodlot and harvest spruce trees before they become overmature. Older trees are not able to produce the extra sap necessary to "pitch out" the invading adult beetle.

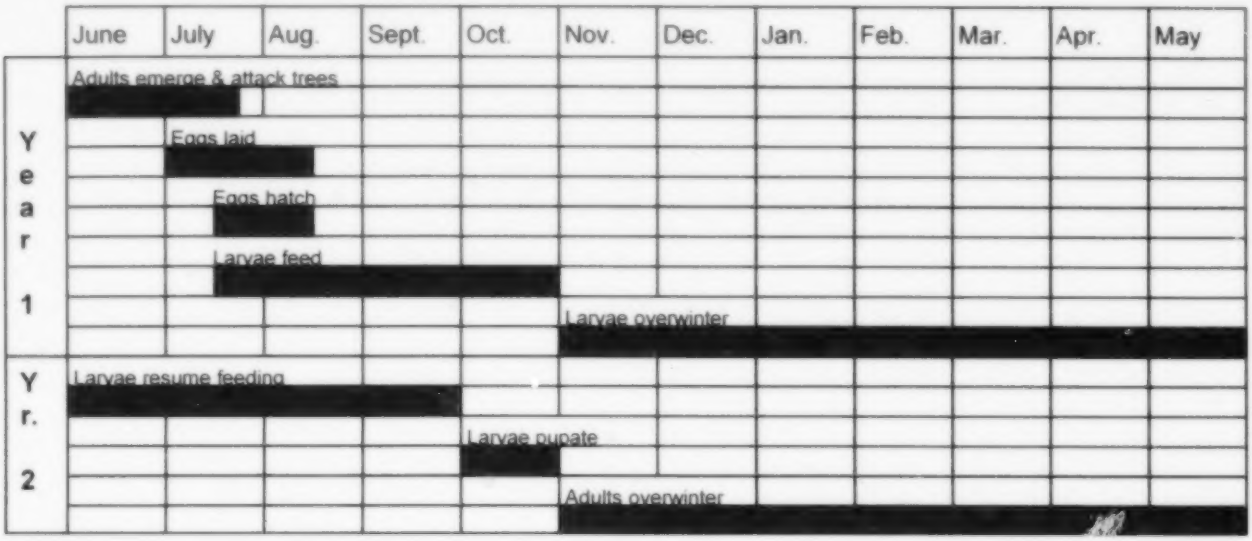
Blowdowns should be removed from the areas as soon as possible. Widely scattered blowdowns are a prime source of outbreaks.

Minimize high stumps, cull logs and large diameter slash in harvesting operations.

Sanitation logging is the most effective method for treating areas under heavy attack. Harvesting the infested and mature/overmature trees can reduce the spread of beetle populations to neighbouring woodlots. Because white spruce usually grows in even-aged stands, all the trees in the stand should be harvested. To help stop the spread of the beetles to other areas, wood from harvested sites should be trucked and processed promptly. All bark and slabs should be destroyed.

Logs may be stored by placing them in water so that beetles still within the logs are killed.

Spruce Beetle 2 Year Life Cycle
Shaded areas indicate life stage activity.



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Ministry of Forests, Province of British Columbia, 1980 Spruce Beetle Management Seminar and Workshop; proceedings in abstract. Pest Management Report Number 1.

Schmid, J.M. and Frye, R.H., 1977. Spruce beetle in the Rockies. USDA Forest Service, General Technical Report RM-49.

NS Dept. of Natural Resources. 1998. Spruce Beetle. Information Leaflet No. IPM-4.

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Bits and Pieces

Spiders

Jacqui Gordon

I can't in good conscience put spiders on the Most Unwanted List for this issue (see page 4). I realize that their habit of making webs across doorways and paths at this time of year can be a bit annoying, (although I'm sure the dance of removing the spider webs . . . yes, we've all done it . . . amuses the neighbours), but remember they are feeding on some of the insect pests we don't want around.

How do you know if you've picked the wrong college?

- There are bars on the windows and the school uniform is an orange jumpsuit.
- Homework assignments involve delivering pizza.
- Your classes are in different states.
- Seniors are referred to as being in grade 16.
- The Latin motto translates to, "Dude, Let's Party."
- The dean is Jerry Springer.
- Your dorm is wrapped in police tape.
- They serve haggis in the cafeteria.

Provincial Entomologist's Overview
What's the Buzz?

Rain, rain, go away. Come again another day. Now don't get me wrong, I'm not anti precipitation. However, thanks to the excessively moist conditions we've experienced this spring, the ID desk has been flooded with requests for disease identifications from across the province. The three main culprits were ash rust, maple anthracnose and leaf blotch on horse chestnut.

Ash rust, caused by the fungus *Puccinia sparganioides*, can infect all species of ash. The spores of this fungus overwinter on cord or marsh grasses, commonly found in coastal salt and freshwater marshes. In the spring fungal spores are released from infected grasses and blown to nearby ash trees. Infection results in swellings on leaves, petioles, and small twigs. In late June, these swellings develop yellow to orange spots containing masses of orange powdery spores. These spores blow from the ash trees, reinfecting the cord or marsh grasses.

Maple anthracnose is caused by several species of fungi (*Discula* spp.) Common symptoms include brown, discoloured areas on the surface of the leaf, that over time merge, killing the leaf.

The fungus, *Guignardia aesculi*, causes leaf blotch on horse chestnuts. Infection appears as water soaked, irregularly shaped blotches that enlarge rapidly. In a few days they turn reddish-brown and the black fungal fruiting bodies are visible within. The leaves may become distorted, dry and drop off the tree.

Both anthracnose and leaf blotch fungi overwinter in infected leaves that have fallen from the tree. In the spring, spores develop on these fallen leaves and are released into the air during wet weather, infecting new foliage. Fungal spores are spread by wind and splashing rain causing disease conditions to be worse when conditions are cool and moist.

Although unsightly, these diseases are not a serious threat to tree health. Because of this, control measures are not usually necessary. Fall sanitation, however is important in reducing the amount of fungal inoculum available for new infections. Rake up leaves in the fall and prune out infected twigs and branches. Do not compost this infected material. If possible it should be burned or otherwise destroyed.

The recent damp weather has not only increased the presence of leaf diseases it's also been a boon to millipede populations. To avoid these nocturnal visitors remove piles of leaves, mulch etc. from around your home, seal any cracks around basement windows, install weather stripping around doors and properly ventilate basements and other damp areas to eliminate any excess moisture. Ladies and gentlemen start your dehumidifiers.

'Til Next Time,

Gina

Provincial Entomologist

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Most Unwanted List

Fruit Flies
Crane Flies
Harvestmen
Ants
Fall Webworm
Whitespotted Sawyer

Dishonourable Mention
(Not insects but still unwanted)
Blacklegged Ticks
Millipedes
Spider Webs (see Bits & Pieces)
Fungal leaf/needles diseases

Focus Index . . . . . July 1993-July 2007

Another year gone by and it's time for the annual index of *Focus* articles.

Ages of Trees . . . . . April 2000
Alder Flea Beetle . . . . . July/Aug 2004
American Dog Tick . . . . . April 1999, May/Apr 2002
Ants in Lawns . . . . . July 1998
Asian Longhorn Beetle . . . . . Aug 1998, July 1999
Asian Gypsy Moth . . . . . Nov 1993
Bacillus thuringiensis . . . . . May 1996
Bagworm Moths . . . . . July 1994
Balsam Fir Cytospora Canker . . July/August 2006
Balsam Fir Sawfly . . . . . Sept 1998
Balsam Gall Midge . . . . . May 1999
Balsam Shootboring Sawfly . . . . July/August 2006
Balsam Twig Aphid . . . . . June 1999
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Eastern Tent Caterpillar . . . . . May 1994
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Insects as Food . . . . . Jan 1996
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Larder Beetle . . . . . Jan 1995
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Pavement Ants . . . . . July/Aug 2005
People Pressure Diseases . . . . . Aug 96, Nov 96
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Whitemarked Tussock Moth in Christmas Tree Lots
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Whitespotted Sawyer . . . . . July 2000
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Winter Insects . . . . . Feb 1995, Feb 1999
Winter Moth . . . . . Oct 1993
Woolly Alder Aphid . . . . . Sept 1997
Yellow-bellied Sapsucker . . . . . July 1996
Yellowheaded Spruce Sawfly . . . . . Aug 2000
Yellowjackets & Paper Wasps . . . . . Sept 2000

Project Update

Pale Winged Grey
Mike LeBlanc

Feeding damage to eastern hemlock trees has continued again this year, even in areas that had heavy larval mortality last year caused by naturally occurring pathogens. Harmony Lake and South Brookfield are two areas that come to mind; feeding damage there was generally light with spot locations of moderate to heavy defoliation. The locations containing the heaviest damage were in the Molega Lake (south), Annis Lake, Ponhook Lake, and Greenfield areas of Queens Co., the latter three locations are new outbreaks this year and appear to be the "leading edge" of the ongoing outbreak.

The aerial and ground defoliation surveys are ongoing so I'll have more complete information in the next issue.